Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently amended) A filter element comprising:

(a) a media pack comprising:

(i) a construction of a media composite; said construction including a substrate having a plurality of pleats having a length extending from said first end to said second end, the substrate comprising a filter medium having [[a high]] an efficiency when tested with particles having a diameter of 0.01 to [[1 μ]] 1μm;

(ii) said construction having a tubular shape and defining an open interior having a first and a second opposite ends; and

(iii) said substrate at least partially covered by a single layer, said layer comprising a polymeric fine fiber comprising a fiber with a diameter of about 0.01 to 0.5 microns such that after test exposure for a test period of 16 hours to test conditions of 140°F air and a relative humidity of 100% retains greater than 30% of the fiber unchanged for filtration purposes;

(b) a first end cap and a second end cap;

(i) said media pack being secured to said first end cap at said first end of said media pack;

(ii) said media pack being secured to said second end cap at said second end of said media pack;

(iii) at least one of said first and second end caps including a sealing portion; said sealing portion comprising a material compressible in a direction toward said media pack.

2. (Original) The element of claim 1 wherein the polymer comprises a condensation polymer.

3. (Original) The element of claim 1 wherein the polymer comprises an addition polymer.

4. (Original) The element of claim 1 wherein the polymeric fiber comprises an addition polymer comprising a polyvinyl halide polymer.

5. (Original) The element of claim 1 wherein the polymeric fiber comprises an addition polymer comprising a polyvinylidene halide polymer.

6. (Previously presented) The element of claim 5 wherein the polyvinylidene halide comprises polyvinylidene chloride.

7. (Original) The element of claim 5 wherein the polyvinylidene halide comprises polyvinylidene fluoride.

8. (Original) The element of claim 1 wherein the polymeric fiber comprises a polyvinylalcohol.

9. (Previously presented) The element of claim 8 wherein the polyvinylalcohol is crosslinked with about 1 to 40 wt.% of a crosslinking agent.

10. (Original) The element of claim 1 wherein the polymeric fiber comprises a crosslinked polyvinylalcohol.

11. (Canceled)

12. (Original) The element of claim 10 wherein the crosslinked polyvinylalcohol is crosslinked using a polyacrylic acid having a molecular weight of about 1000 to 3000.

13. (Original) The element of claim 10 wherein the crosslinked polyvinylalcohol is crosslinked using a melamine-formaldehyde resin having a molecular weight of about 1000 to 3000.

14. (Previously presented) The element of claim 2 wherein the polymeric fiber comprises a condensation polymer, other than a copolymer formed from a cyclic lactam and a C_{6-10} diamine monomer or a C_{6-10} diacid monomer, and a resinous additive comprising an oligomer having a molecular weight of about 500 to 3000 and an aromatic character wherein the additive is miscible in the condensation polymer but forms a hydrophobic coating on the fiber.

15. (Currently amended) The element of claim 2 wherein the polymeric fiber comprises a condensation polymer, other than a copolymer formed from a cyclic lactam and a C_{6-10} diamine monomer or a C_{6-10} diacid monomer, and a resinous additive comprising an oligomer having a molecular weight of about 500 to 3000 and an alkyl phenolic aromatic character wherein the additive is miscible in the condensation polymer but forms a hydrophobic coating on the fiber.

16. (Currently amended) The element of claim 2 wherein the condensation polymer comprises a nylon polymer, and a resinous additive comprising an oligomer having a molecular weight of about 500 to 3000 and an aromatic character wherein the additive is miscible in the condensation polymer but forms a hydrophobic coating on the fiber.

17. (Original) The element of claim 2 wherein the condensation polymer comprises a polyalkylene terephthalate.

18. (Original) The element of claim 17 wherein the condensation polymer comprises a polyalkylene naphthalate.

19. (Original) The element of claim 17 wherein the condensation polymer comprises a polyethylene terephthalate.

20. (Original) The element of claim 2 wherein the condensation polymer comprises a nylon polymer comprising a homopolymer having repeating units derived from a cyclic lactam.

21. (Previously presented) The element of claim 16 wherein the nylon polymer is combined with a second nylon polymer, the second nylon polymer differing in molecular weight or monomer composition.

22. (Original) The element of claim 21 wherein the nylon copolymer is combined with a second nylon polymer, the second nylon polymer comprising an alkoxy alkyl modified polyamide.

23. (Previously presented) The element of claim 21 wherein the second nylon polymer comprises a nylon copolymer.

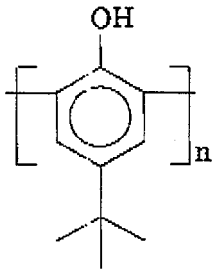
24. (Original) The element of claim 21 wherein the polymers are treated to form a single polymeric composition as measured by a differential scanning calorimeter showing a single phase material.

25. (Original) The element of claim 24 wherein the copolymer and the second polymer are heat treated.

26. (Original) The element of claim 25 wherein the copolymer and the second polymer are heat treated to a temperature less than the lower melting point of the first or the second polymers.

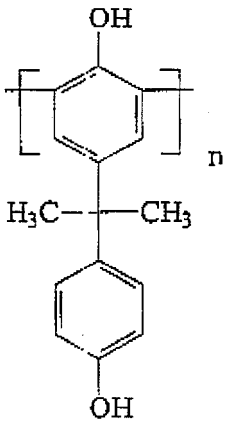
27. (Original) The element of claim 14 wherein the additive comprises an oligomer comprising tertiary butyl phenol.

28. (Original) The element of claim 27 wherein the additive comprises an oligomer comprising:



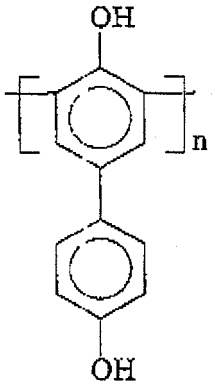
29. (Original) The element of claim 14 wherein the resin comprises an oligomer comprising bis-phenol A.

30. (Original) The element of claim 29 wherein the additive comprises an oligomer comprising:



31. (Original) The element of claim 14 wherein the resin comprises an oligomer comprising dihydroxy biphenyl.

32. (Original) The element of claim 31 wherein the additive comprises an oligomer comprising:



33. (Original) The element of claim 14 wherein the additive comprises a blend of the resinous additive and a fluoropolymer.

34. (Original) The element of claim 14 wherein the additive comprises a fluorocarbon surfactant.

35. (Original) The element of claim 14 wherein the additive comprises a nonionic surfactant.

36. (Original) The element of claim 14 wherein the condensation polymer comprises a polyurethane polymer.

37. (Original) The element of claim 2 wherein the condensation polymer comprises a blend of a polyurethane polymer and a polyamide polymer.

38. (Original) The element of claim 14 wherein the condensation polymer comprises a blend of a polyurethane polymer and a polyamide polymer.

39. (Original) The element of claim 38 wherein the polyamide polymer comprises a nylon.

40. (Original) The element of claim 39 wherein the nylon comprises a nylon homopolymer, a nylon copolymer or mixtures thereof.

41. (Original) The element of claim 14 wherein the condensation polymer comprises an aromatic polyamide.

42. (Original) The element of claim 14 wherein the condensation polymer comprises a reaction product of a diamine monomer and poly(m-phenylene isophthalamide).

43. (Original) The element of claim 38 wherein the polyamide comprises a reaction product of a diamine and a poly(p-phenylene terephthalamide).

44. (Original) The element of claim 14 wherein the condensation polymer comprises a polybenzimidazole.

45. (Original) The element of claim 14 wherein the condensation polymer comprises a polyarylate.

46. (Original) The element of claim 45 wherein the condensation polymer comprises a polyarylate and a polyamide.

47. (Original) The element of claim 45 wherein the polyarylate polymer comprises a condensation polymerization reaction product between bis-phenol-A and mixed phthalic acids.

48. (Previously presented) A filter element according to claim 1 wherein said seal is an axially directed seal.

49. (Previously presented) A filter element according to claim 1 wherein said seal is a radially directed seal.

50. (Previously presented) A filter element according to claim 1 further including:

(a) an inner support liner extending between said first and second end caps;

(i) said inner support liner being between said sealing portion and said media pack.

51. (Original) A filter element according to claim 50 wherein:

(a) at least one of said first and second end caps includes an outer radial surface;

(i) said sealing portion comprising said outer radial surface.

52. (Original) A filter element according to claim 51 further including:

(a) an inner support liner extending between said first and second end caps;

(b) an outer support liner extending between said first and second end caps; and wherein

(i) each of said plurality of pleats has a pleat length of at least 6 inches and a pleat depth of at least 1 inch.

53. (Currently amended) A system including an engine rated at an engine intake air flow of at least 3 cfm and having an air cleaner constructed and arranged to filter the engine intake air; the air cleaner including a housing and a primary filter element operably positioned therein, the primary filter element comprising:

(a) a media pack comprising a sheet-like substrate, said pack having a first end and an opposite second end;

(i) said substrate having a plurality of pleats having a length extending from said first end to said second end, the substrate comprising a filter medium having [[a high]] an efficiency when tested with particles having a diameter of 0.01 to [[1 μ]] 1μm; and

(ii) said substrate at least partially covered by a single layer;

(A) said layer comprising a fine fiber having a diameter of about 0.01 to 0.5 microns such that after test exposure for a test period of 16 hours to test conditions of 140°F air and a relative humidity of 100% retains greater than 30% of the fiber unchanged for filtration purposes, said fiber comprising a polymer composition selected from the group consisting of:

(1) an addition polymer and about 2 to 25 wt% of an additive, the additive comprising a resinous material having a molecular weight of about 500 to 3000 and an aromatic character, the additive being miscible in the polymer but forms a hydrophobic coating on the fiber,

(2) a condensation polymer and about 2 to 25 wt% of an additive, the additive comprising a resinous material having a molecular weight of about 500 to 3000, and an aromatic character wherein the additive is miscible in the condensation polymer but forms a hydrophobic coating on the fiber, and

(3) mixtures thereof.

54. (Original) The system of claim 53 wherein the polymer is a component of a solution, the solution comprising a major proportion of an aqueous alcoholic solvent and about 3 to 30 wt% of the polymeric composition based on the solution and the fiber retains a trace amount of solvent.

55. (Original) The system of claim 53 wherein the addition polymer comprises a polyvinyl halide polymer, a polyvinylidene halide polymer or mixtures thereof.

56. (Original) The system of claim 53 wherein the condensation polymer comprises a nylon polymer comprising a homopolymer having repeating units derived from a cyclic lactam.

57. (Previously presented) The system of claim 53 wherein the condensation polymer comprises a nylon copolymer combined with a second nylon polymer, the second nylon polymer differing in molecular weight or monomer composition.

58. (Original) The system of claim 53 wherein the polymer comprises a polyvinylalcohol.

59. (Original) The system of claim 58 wherein the polyvinylalcohol is crosslinked with about 1 to 40 wt.% of a crosslinking agent.

60. (Original) The system of claim 56 wherein the nylon polymer is combined with a second nylon polymer, the second nylon polymer comprising an alkoxy alkyl modified polyamide.

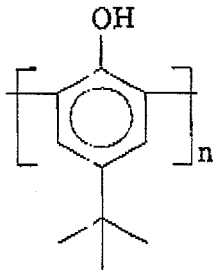
61. (Original) The system of claim 60 wherein the polymers are treated to form a single polymeric composition as measured by a differential scanning calorimeter showing a single phase material.

62. (Original) The system of claim 53 wherein the polymer comprises a polyvinylchloride.

63. (Original) The system of claim 62 wherein the polyvinylchloride is crosslinked.

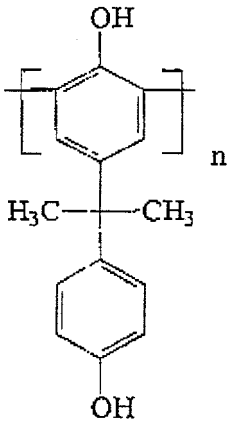
64. (Original) The system of claim 53 wherein the additive comprises an oligomer comprising tertiary butyl phenol.

65. (Original) The system of claim 64 wherein the additive comprises an oligomer comprising:



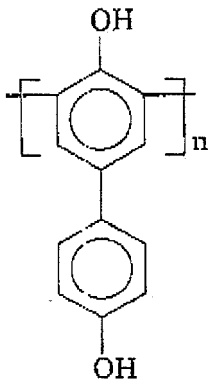
66. (Currently amended) The system of ~~claim 46~~ claim 53 wherein the additive comprises an oligomer comprising bis-phenol A.

67. (Original) The system of claim 66 wherein the additive comprises:



68. (Original) The system of claim 53 wherein the additive comprises an oligomer comprising dihydroxy substituted biphenyl.

69. (Original) The system of claim 68 wherein the additive comprises:



70. (Original) The system of claim 55 wherein the polyvinylidene halide comprises polyvinylidene chloride.

71. (Original) The system of claim 55 wherein the polyvinylidene halide comprises polyvinylidene fluoride.

72. (Original) The system of claim 59 wherein the crosslinked polyvinylalcohol is crosslinked using a polyacrylic acid having a molecular weight of about 1000 to 3000.

73. (Original) The system of claim 59 wherein the crosslinked polyvinylalcohol is crosslinked using a melamine-formaldehyde resin having a molecular weight of about 1000 to 3000.

74. (Original) A system according to claim 53 wherein:

(a) the system includes an engine rated at an engine intake air flow of at least 100 cfm; and

(b) the primary element has a size and construction providing for an initial restriction of no greater than 3 inches of H_2O, when evaluated at air flow rates of up to 600 cfm.

75. (Previously presented) A system according to claim 74 wherein:

(a) said pleated construction has a tubular shape and defines an open interior;

(b) said air cleaner housing includes an airflow tube; said primary filter element being operably mounted on said airflow tube;

(c) said primary filter element further includes:

(i) a first, open end cap and a second, opposite end cap;

(A) said media pack being bonded to said first end cap at said first end of said media pack;

(B) said media pack being bonded to said second end cap at said second end of said media pack;

(ii) an inner support liner extending between said first end cap and said second end cap;

(iii) said first end cap including a radially or axially directed sealing portion;

(A) said sealing portion being inwardly directed toward said open interior;

(B) said sealing portion comprising a polyurethane foam material compressed between and against said inner support liner and said airflow tube to form a first radial seal between said primary filter element and said air cleaner housing.

76. (Previously presented) A system according to claim 75 wherein:

(a) said primary filter element further includes an outer support liner extending between said first and second end caps;

(b) said second end cap defines a center aperture; and

(c) said second end cap includes a sealing portion;

(i) said sealing portion comprising a polyurethane foam material compressed between and against said outer support liner and said air cleaner to form a second radial seal between said primary filter element and said air cleaner housing.

77. (Original) A system according to claim 74 further including:

(a) a safety element operably installed in said air cleaner housing; said safety element including:

(i) a pleated construction of a media composite; said safety element pleated construction including a plurality of pleats;

(ii) said safety element pleated construction having a tubular shape and defining an open interior;

(iii) a safety element first end cap and a safety element second end cap; said safety element pleated construction being bonded to and extending between said safety element first and second end caps;

(A) said safety element first end cap being ring-shaped defining an opening;

(B) said safety element second end cap being closed; and

(iv) said safety element first end cap including an outwardly radially directed sealing portion; said outwardly radially directed sealing portion comprising a polyurethane material compressible to form a radial seal between said safety element and said air cleaner housing airflow tube.

78. (Original) A system according to claim 74 wherein:

(a) said pleated construction has a tubular shape and defines an open interior;

(b) said air cleaner housing includes a yoke arrangement to secure said housing to said primary filter element;

(c) said primary filter element further includes:

(i) a first, open end cap and a second, opposite closed end cap;

(A) said media pack being bonded to said first end cap at said first end of said media pack;

(B) said media pack being bonded to said second end cap at said second end of said media pack;

(C) said first end cap including an axially directed sealing potion;

(d) said axially directed sealing portion being pressed against said air cleaner housing by said yoke arrangement to form an axial seal between said primary filter element and said air cleaner housing.

79. (Original) A system according to claim 74 wherein:

(a) said primary filter element includes first and second opposite end caps bonded to said pleated construction;

(i) said first end cap defining a plurality of air inlet apertures and an outlet tube;

(A) said outlet tube being secured to an air intake conduit of said engine;

(ii) said pleated construction being tubular in shape defining an open interior;

(iii) said second end cap being closed; and

(iv) said air cleaner housing being non-removably secured to said first and second end caps.

80. (Original) A system according to claim 74 wherein:

(a) said primary filter element comprises:

(i) a panel filter construction having an outer perimeter;

(ii) at least 40 pleats; each of said pleats having a pleat depth of at least 2 inches;

(iii) an area within said outer perimeter of at least 35 square inches; and

(iv) an outer gasket member along said outer perimeter comprising a polymeric material.

81. (Currently amended) A system including a fluid compressor and having an air cleaner constructed and arranged to filter compressor intake air; the air cleaner including a housing and a primary filter element operably positioned therein, the primary filter element comprising:

(a) a media pack having a first end and an opposite second end;

(i) said media pack including a pleated construction of a media composite; said pleated construction including a plurality of pleats having a length extending from said first end to said second end, the substrate comprising a filter medium having [[a high]] an efficiency when tested with particles having a diameter of 0.01 to [[1 μ]] 1μm; and

(ii) said media composite including a substrate at least partially covered by a single layer;

(A) said layer comprising a fine fiber having a diameter of about 0.01 to 0.5 microns such that after test exposure for a test period of 16 hours to test conditions of 140°F air and a relative humidity of 100% retains greater than 30% of the fiber unchanged for filtration purposes, said fiber comprising a polymeric composition selected from the group consisting of:

(1) an addition polymer and about 2 to 25 wt% of an additive, the additive comprising a resinous material having a molecular weight of about 500 to 3000 and an aromatic character, the additive being but forms a hydrophobic coating on the fiber miscible in the polymer,

(2) a condensation polymer and about 2 to 25 wt% of an additive, the additive comprising a resinous material having a molecular weight of about 500 to 3000, and an aromatic character wherein the additive is miscible in the condensation polymer but forms a hydrophobic coating on the fiber; and

(3) mixtures thereof.

82. (Original) The system of claim 81 wherein the polymer is a component of a solution, the solution comprising a major proportion of an aqueous alcoholic solvent and about 3 to 30 wt% of the polymeric composition based on the solution and the fiber retains a trace amount of solvent.

83. (Original) The system of claim 81 wherein the addition polymer comprises a polyvinyl halide polymer, a polyvinylidene halide polymer or mixtures thereof.

84. (Original) The system of claim 81 wherein the condensation polymer comprises a nylon polymer comprising a homopolymer having repeating units derived from a cyclic lactam.

85. (Previously presented) The system of claim 81 wherein the condensation polymer comprises a nylon copolymer combined with a second nylon polymer, the second nylon polymer differing in molecular weight or monomer composition.

86. (Original) The system of claim 81 wherein the polymer comprises a polyvinylalcohol.

87. (Original) The system of claim 86 wherein the polyvinylalcohol is crosslinked with bout 1 to 40 wt.% of a crosslinking agent.

88. (Original) The system of claim 84 wherein the nylon polymer is combined with a second nylon polymer, the second nylon polymer comprising an alkoxy alkyl modified polyamide.

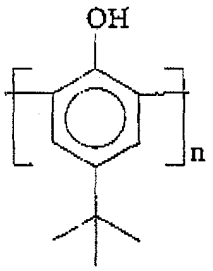
89. (Original) The system of claim 88 wherein the polymers are treated to form a single polymeric composition as measured by a differential scanning calorimeter showing a single phase material.

90. (Original) The system of claim 81 wherein the polymer comprises a polyvinylchloride.

91. (Original) The system of claim 90 wherein the polyvinylchloride is crosslinked.

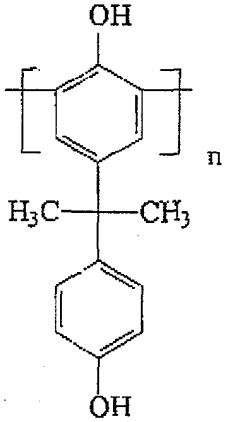
92. (Original) The system of claim 81 wherein the additive comprises an oligomer comprising tertiary butyl phenol.

93. (Original) The system of claim 92 wherein the additive comprises an oligomer comprising:



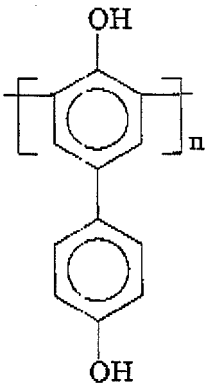
94. (Original) The system of claim 81 wherein the additive comprises an oligomer comprising bis-phenol A.

95. (Original) The system of claim 94 wherein the additive comprises:



96. (Original) The system of claim 81 wherein the additive comprises an oligomer comprising dihydroxy substituted biphenyl.

97. (Original) The system of claim 96 wherein the additive comprises:



98. (Original) The system of claim 81 wherein the polymer is a component of a solution, the solution comprising a major proportion of an aqueous alcoholic solvent and about 3 to 30 wt% of the polymeric composition based on the solution.

99. (Original) The system of claim 83 wherein the polyvinylidene halide comprises polyvinylidene chloride.

100. (Original) The system of claim 83 wherein the polyvinylidene halide comprises polyvinylidene fluoride.

101. (Original) The system of claim 87 wherein the crosslinked polyvinylalcohol is crosslinked using a polyacrylic acid having a molecular weight of about 1000 to 3000.

102. (Original) The system of claim 87 wherein the crosslinked polyvinylalcohol is crosslinked using a melamine-formaldehyde resin having a molecular weight of about 1000 to 3000.

103. (Original) A system according to claim 81 wherein:

(a) the system includes an engine rated at an engine intake air flow of at least 500 cfm; and

(b) the primary element has a size and construction providing for an initial restriction of no greater than 3 inches of H_2O, when evaluated at air flow rates of up to 600 cfm.

104. (Previously presented) A system according to claim 103 wherein:

(a) said pleated construction has a tubular shape and defines an open interior;

(b) said air cleaner housing includes an airflow tube; said primary filter element being operably mounted on said airflow tube;

(c) said primary filter element further includes:

(i) a first, open end cap and a second, opposite end cap;

(A) said media pack being bonded to said first end cap at said first end of said media pack;

(B) said media pack being bonded to said second end cap at said second end of said media pack;

(ii) an inner support liner extending between said first end cap and said second end cap;

(iii) said first end cap including a sealing portion;

(A) said sealing portion being inwardly directed toward said open interior;

(B) said sealing portion comprising a polyurethane foam material compressed between and against said inner support liner and said airflow tube to form a seal between said primary filter element and said air cleaner housing.

105. (Previously presented) A system according to claim 104 wherein:

(a) said primary filter element further includes an outer support liner extending between said first and second end caps;

(b) said second end cap defines a center aperture; and

(c) said second end cap includes a sealing portion;

(i) said sealing portion comprising a polyurethane foam material compressed between and against said outer support liner and said air cleaner to form a second seal between said primary filter element and said air cleaner housing.

106. (Original) A system according to claim 103 further including:

(a) a safety element operably installed in said air cleaner housing; said safety element including:

(i) a pleated construction of a media composite; said safety element pleated construction including a plurality of pleats;

(ii) said safety element pleated construction having a tubular shape and defining an open interior;

(iii) a safety element first end cap and a safety element second end cap; said safety element pleated construction being bonded to and extending between said safety element first and second end caps;

(A) said safety element first end cap being ring-shaped defining an opening;

(B) said safety element second end cap being closed; and

(iv) said safety element first end cap including an outwardly radially directed sealing portion; said outwardly radially directed sealing portion comprising a polyurethane material compressible to form a radial seal between said safety element and said air cleaner housing airflow tube.

107. (Original) A system according to claim 103 wherein:

(a) said pleated construction has a tubular shape and defines an open interior;

(b) said air cleaner housing includes a yoke arrangement to secure said housing to said primary filter element;

(c) said primary filter element further includes:

(i) a first, open end cap and a second, opposite closed end cap;

(A) said media pack being bonded to said first end cap at said first end of said media pack;

(B) said media pack being bonded to said second end cap at said second end of said media pack;

(C) said first end cap including an axially directed sealing potion;

(d) said axially directed sealing portion being pressed against said air cleaner housing by said yoke arrangement to form an axial seal between said primary filter element and said air cleaner housing.

108. (Original) A system according to claim 103 wherein:

(a) said primary filter element includes first and second opposite end caps bonded to said pleated construction;

(i) said first end cap defining a plurality of air inlet apertures and an outlet tube;

(A) said outlet tube being secured to an air intake conduit of said engine;

(ii) said pleated construction being tubular in shape defining an open interior;

(iii) said second end cap being closed; and

(iv) said air cleaner housing being non-removably secured to said first and second end caps.

109. (Original) A system according to claim 103 wherein:

(a) said primary filter element comprises:

(i) a panel filter construction having an outer perimeter;

(ii) at least 40 pleats; each of said pleats having a pleat depth of at least 2 inches;

(iii) an area within said outer perimeter of at least 35 square inches; and

(iv) an outer gasket member along said outer perimeter comprising a polymeric material.

110. (Original) A system according to claim 81 wherein:

(a) said pleated construction has a tubular shape and defines an open interior;

(b) said air cleaner housing includes a yoke arrangement to secure said housing to said primary filter element;

(c) said primary filter element further includes:

(i) a first, open end cap and a second, opposite closed end cap:

(A) said media pack being bonded to said first end cap at said first end of said media pack;

(B) said media pack being bonded to said second end cap at said second end of said media pack;

(C) said first end cap including an axially directed sealing portion;

(D) said axially directed sealing portion being pressed against said air cleaner housing by said yoke arrangement to form an axial seal between said primary filter element and said air cleaner housing.

111. (Currently amended) A system including a vehicle powered by a gas turbine engine and having an air cleaner constructed and arranged to filter gas turbine intake air; the air cleaner comprising:

(a) a media pack having a first filter panel and a second filter panel;

(i) each of said first filter panel and second filter panel including a pleated construction of a media composite; said pleated construction, the substrate comprising a filter medium having [[a high]] an efficiency when tested with particles having a diameter of 0.01 to [[1 μ]] 1μm including a plurality of pleats;

(ii) said media composite including a substrate at least partially covered by a single layer;

(A) said layer comprising a fine fiber having a diameter of about 0.1 to 0.5 microns such that after test exposure for a test period of 16 hours to test conditions of 140°F air and a relative humidity of 100% retains greater than 30% of the fiber unchanged for filtration purposes, said fiber comprising a polymeric composition selected from the group consisting of:

(1) an addition polymer and about 2 to 25 wt% of an additive, the additive comprising a resinous material having a molecular weight of about 500 to 3000 and an aromatic character, the additive being miscible in the polymer but forms a hydrophobic coating on the fiber,

(2) a condensation polymer and about 2 to 25 wt% of an additive, the additive comprising a resinous material having a molecular weight of about 500 to 3000, and an aromatic character wherein the additive is miscible in the condensation polymer but forms a hydrophobic coating on the fiber; and

(3) mixtures thereof.

112. (Original) The system of claim 111 wherein the addition polymer comprises a polyvinyl halide polymer, a polyvinylidene halide polymer or mixtures thereof.

113. (Original) The system of claim 111 wherein the condensation polymer comprises a nylon polymer comprising a homopolymer having repeating units derived from a cyclic lactam.

114. (Previously presented) The system of claim 111 wherein the condensation polymer comprises a nylon copolymer combined with a second nylon polymer, the second nylon polymer differing in molecular weight or monomer composition.

115. (Original) The system of claim 111 wherein the polymer comprises a polyvinylalcohol.

116. (Original) The system of claim 115 wherein the polyvinylalcohol is crosslinked with about 1 to 40 wt.% of a crosslinking agent.

117. (Original) The system of claim 113 wherein the nylon polymer is combined with a second nylon polymer, the second nylon polymer comprising an alkoxy alkyl modified polyamide.

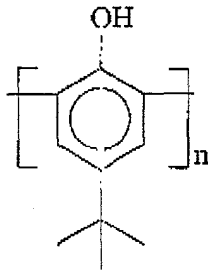
118. (Original) The system of claim 117 wherein the polymers are treated to form a single polymeric composition as measured by a differential scanning calorimeter showing a single phase material.

119. (Original) The system of claim 111 wherein the polymer comprises a polyvinylchloride.

120. (Original) The system of claim 119 wherein the polyvinylchloride is crosslinked.

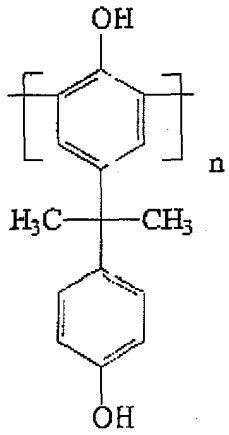
121. (Original) The system of claim 111 wherein the additive comprises an oligomer comprising tertiary butyl phenol.

122. (Original) The system of claim 121 wherein the additive comprises an oligomer comprising:



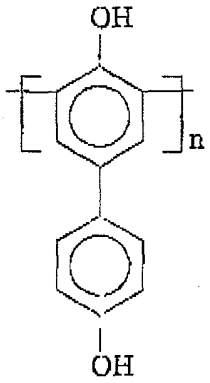
123. (Original) The system of claim 111 wherein the additive comprises an oligomer comprising bis-phenol A.

124. (Original) The system of claim 123 wherein the additive comprises:



125. (Original) The system of claim 111 wherein the additive comprises an oligomer comprising dihydroxy substituted biphenyl.

126. (Original) The system of claim 125 wherein the additive comprises:



127. (Original) A system according to claim 111 wherein:

(a) said media pack includes a first end and a second end; and

(b) said first and second filter panels are oriented in a V-configuration and diverge from one another along a direction of extension from said first end to said second end to form a clean air space in said media pack between said first and second filter panels.

128. (Currently amended) A method for filtering air; the air having a temperature of at least 140°F, the method comprising:

(a) directing the air through a media composite

(i) the composite comprising a sheet-like substrate in a pleated construction, the substrate comprising a filter medium having [[a high]] an efficiency when tested with particles having a diameter of 0.01 to [[1 μ]] 1μm; and

(ii) the substrate at least partially covered by a single layer, the layer comprising a fine fiber having a diameter of about 0.1 to 0.5 microns such that after test exposure for a test period of 16 hours to test conditions of 140°F air and a relative humidity of 100% retains greater than 30% of the fiber unchanged for filtration purposes, said fiber comprising a polymeric composition selected from the group consisting of:

(A) an addition polymer and about 2 to 25 wt% of an additive, the additive comprising a resinous material having a molecular weight of about 500 to 3000 and an aromatic character, the additive being miscible in the polymer but forms a hydrophobic coating on the fiber,

(B) a condensation polymer and about 2 to 25 wt% of an additive, the additive comprising a resinous material having a molecular weight of about 500 to 3000, and an aromatic character wherein the additive is miscible in the condensation polymer but forms a hydrophobic coating on the fiber: and

(C) mixtures thereof.

129. (Original) A method according to claim 128 wherein:

(a) the step of directing the air through a media pack includes directing the air into an air intake conduit of an engine rated at an engine intake air flow of at least 3 cfm; the pleated construction having a tubular shape with a plurality of pleats extending between first and second opposite end caps.

130. (Original) A method according to claim 128 wherein the step of directing the air through a media pack includes directing the air into an air intake conduit of a fluid compressor and the pleated construction being a panel filter with at least 40 pleats each having a pleat depth of at least 2 inches.

131. (Original) A method according to claim 128 wherein:

(a) the step of directing the air through a media pack includes directing the air into an air intake conduit of gas-turbine powered tank; the pleated construction including first and second pleated filter panels oriented in a V-configuration.

132. (Currently amended) A filter element comprising:

(a) a media pack comprising:

(i) a construction of a media composite; said construction including substrate having a plurality of pleats having a length extending from said first end to said second end, the substrate comprising a filter medium having [[a high]] an efficiency when tested with particles having a diameter of 0.01 to [[1 μ]] 1μm;

(ii) said construction having a tubular shape and defining an open interior having a first and a second opposite ends; and

(iii) said substrate at least partially covered by a single layer;

(A) said layer comprising a polymeric fine fiber having a diameter of about 0.01 to 0.5 microns such that after test exposure for a test period of 16 hours to test conditions of 140°F air and a relative humidity of 100% retains greater than 30% of the fiber unchanged for filtration purposes, said fiber comprising a condensation polymer and about 2 to 25 wt% of an additive, the additive comprising a resinous material having a molecular weight of about 500 to 3000, and an aromatic character wherein the additive is miscible in the condensation polymer but forms a hydrophobic coating on the fiber, said condensation polymer comprising a copolymer other than a copolymer formed from a cyclic lactam and a C_{6-10} diamine monomer or a C_{6-10} diacid monomer;

(b) a first end cap and a second end cap;

(i) said media pack being secured to said first end cap at said first end of said media pack;

(ii) said media pack being secured to said second end cap at said second end of said media pack;

(iii) at least one of said first and second end caps including a sealing portion; said sealing portion comprising a material compressible in a direction toward said media pack.

133. (Original) The element of claim 132 wherein the polymer of the fiber is formed from a component of a solution, the solution comprising a major proportion of an aqueous alcoholic solvent and about 3 to 30 wt% of the polymeric composition based on the solution and retains trace amounts of solvent in the fiber.

134. (Original) The element of claim 132 wherein the condensation polymer comprises a polyalkylene terephthalate.

135. (Original) The element of claim 132 wherein the condensation polymer comprises a polyalkylene naphthalate.

136. (Original) The element of claim 135 wherein the condensation polymer comprises a polyethylene terephthalate.

137. (Original) The element of claim 132 wherein the condensation copolymer is combined with a second nylon polymer, the second nylon polymer differing in molecular weight or monomer composition.

138. (Original) The element of claim 132 wherein the condensation copolymer is combined with a second nylon polymer, the second nylon polymer comprising an alkoxy alkyl modified polyamide.

139. (Canceled)

140. (Previously presented) A filter element according to claim 132 wherein:

(a) said first end cap is ring-shaped defining an open center and includes an inner surface facing the open center;

(i) said sealing portion comprising said inner surface.

141. (Original) A filter element according to claim 132 further including:

(a) an inner support liner extending between said first and second end caps;

(i) said inner support liner being between said sealing portion and said media pack.

142. (Original) A filter element according to claim 132 wherein:

(a) at least one of said first and second end caps includes an outer radial surface;

(i) said sealing portion comprising said outer radial surface.

143. (Original) A filter element according to claim 132 further including:

(a) an inner support liner extending between said first and second end caps;

(b) an outer support liner extending between said first and second end caps; and wherein:

(i) each of said plurality of pleats has a pleat length of at least 6 inches and a pleat depth of at least 1 inch.

144. (Original) The filter element of claim 111 wherein the vehicle comprises a military tank.

145. (Original) The filter element of claim 111 wherein the vehicle comprises a bus.

146. (Currently amended) A method for filtering vehicle cabin ventilation air, the vehicle having a temperature of at least 140°F during any period of operation, the method comprising:

(a) directing the air through a media composite

(i) the composite comprising a substrate in a pleated construction, the substrate comprising a filter medium having [[a high]] an efficiency when tested with particles having a diameter of 0.01 to [[1 μ]] 1μm; and

(ii) the substrate at least partially covered by a single layer, the layer comprising a fine fiber having a diameter of about 0.1 to 0.5 microns such that after test exposure for a test period of 16 hours to test conditions of 140°F air and a relative humidity of 100% retains greater than 30% of the fiber unchanged for

filtration purposes, said fiber comprising a polymeric composition selected from the group consisting of:

(A) an addition polymer and about 2 to 25 wt% of an additive, the additive comprising a resinous material having a molecular weight of about 500 to 3000 and an aromatic character, the additive being miscible in the polymer but forms a hydrophobic coating on the fiber,

(B) a condensation polymer and about 2 to 25 wt% of an additive, the additive comprising a resinous material having a molecular weight of about 500 to 3000, and an aromatic character wherein the additive is miscible in the condensation polymer but forms a hydrophobic coating on the fiber; and

(C) mixtures thereof.

147. (Original) A method according to claim 146 wherein:

(a) the step of directing the air through a media pack includes directing the air into an air intake conduit of an engine rated at an engine intake air flow of at least 3 cfm; the pleated construction having a tubular shape with a plurality of pleats extending between first and second opposite end caps.

148. (Original) A method according to claim 147 wherein the step of directing the air through a media pack includes directing the air into an air intake conduit of a fluid compressor and the pleated construction being a panel filter with at least 40 pleats each having a pleat depth of at least 2 inches.

149. (Original) A method according to claim 148 wherein:

(a) the step of directing the air through a media pack includes directing the air into an air intake conduit; the pleated construction including first and second pleated filter panels oriented in a V-configuration.